



Types of Coliform Violations for Group A Public Water Systems

Coliform testing

All public water systems in Washington State must be tested for coliform bacteria on a regular basis; the number of samples required depends on the population served by the water system. Coliform presence indicates contamination, which could possibly cause illness to those who drink it. For this reason, a water system must comply with coliform monitoring requirements.

Laboratories test compliance distribution samples with a presence absence test. *Satisfactory* test results indicate the sample has no coliform bacteria present. If the sample does contain coliform bacteria, it is *unsatisfactory* and will be further tested for *E. coli* or fecal coliform bacteria presence. The presence of *E. coli* or fecal coliform indicates a greater likelihood that disease-causing organisms may be present and there is a greater public health concern.

Standards called maximum contaminant levels (MCLs) have been set for the presence of *E. coli*, fecal coliform, and total coliform bacteria. The MCL is the maximum permissible level of coliform in drinking water. A water system has a violation if it exceeds the standard. The two types of MCL violations are *acute* and *non-acute*.

Acute MCL violation

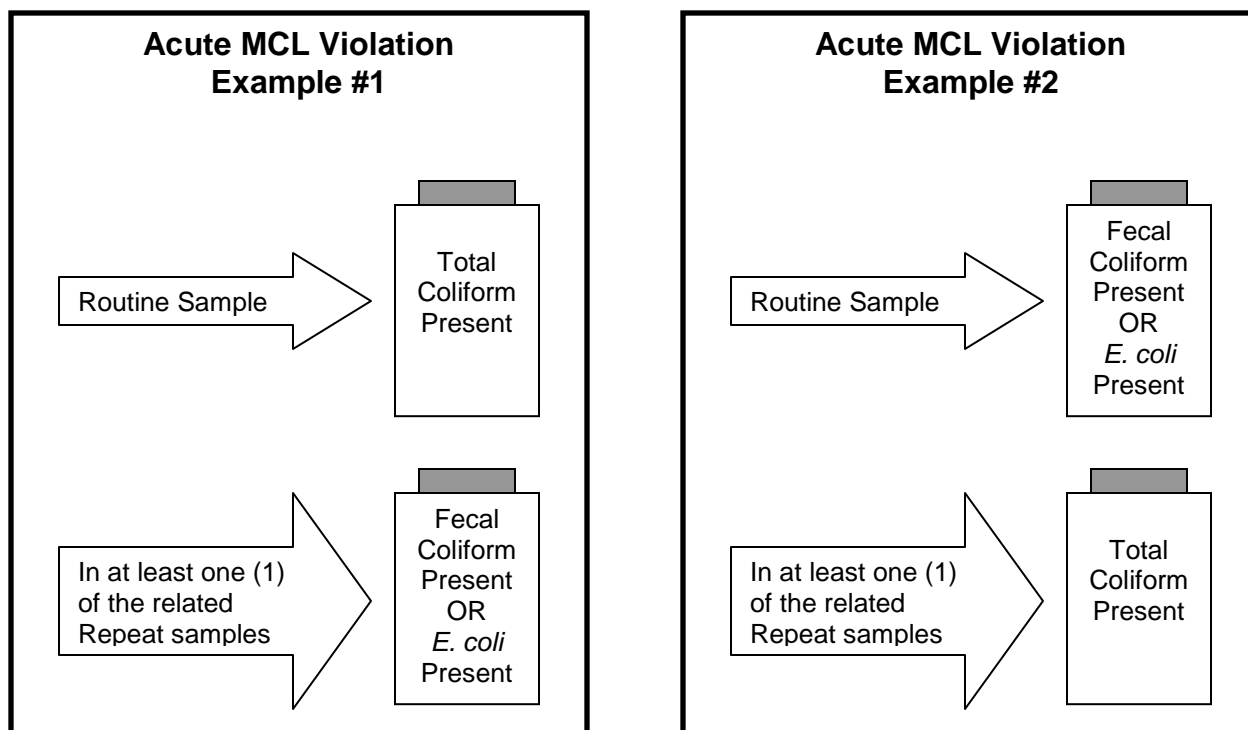
The acute MCL is the standard for the presence of *E. coli* and fecal coliform bacteria in drinking water. *E. coli* and fecal coliform are indicators for recent contamination by sewage or animal waste.

A single sample with a coliform presence, an *E. coli* presence, or a fecal coliform presence does not result in an acute MCL violation. *The acute MCL violation is determined based on the results of both the routine sample and the related set of repeat samples collected as follow-up to the unsatisfactory routine sample.*

For an acute MCL violation to occur, a sample and at least one *related* repeat sample must both have coliform bacteria present, and one of the samples must show the presence of *E. coli* or fecal coliform bacteria. If this occurs, contamination is confirmed in the water supply.



The following shows how an acute MCL violation could occur:



Non-acute MCL violation

The non-acute MCL is the standard for the presence of total coliform bacteria. The presence of total coliform bacteria in a water sample generally indicates contamination from the environment (such as soils and plants). It is possible disease-causing organisms could be present as well.

Non-acute MCL violations are calculated on a monthly basis. As with acute MCL violations, a single sample with a coliform presence does not result in a violation. *All routine and repeat samples collected for a specific month count towards determining compliance with the non-acute MCL.*

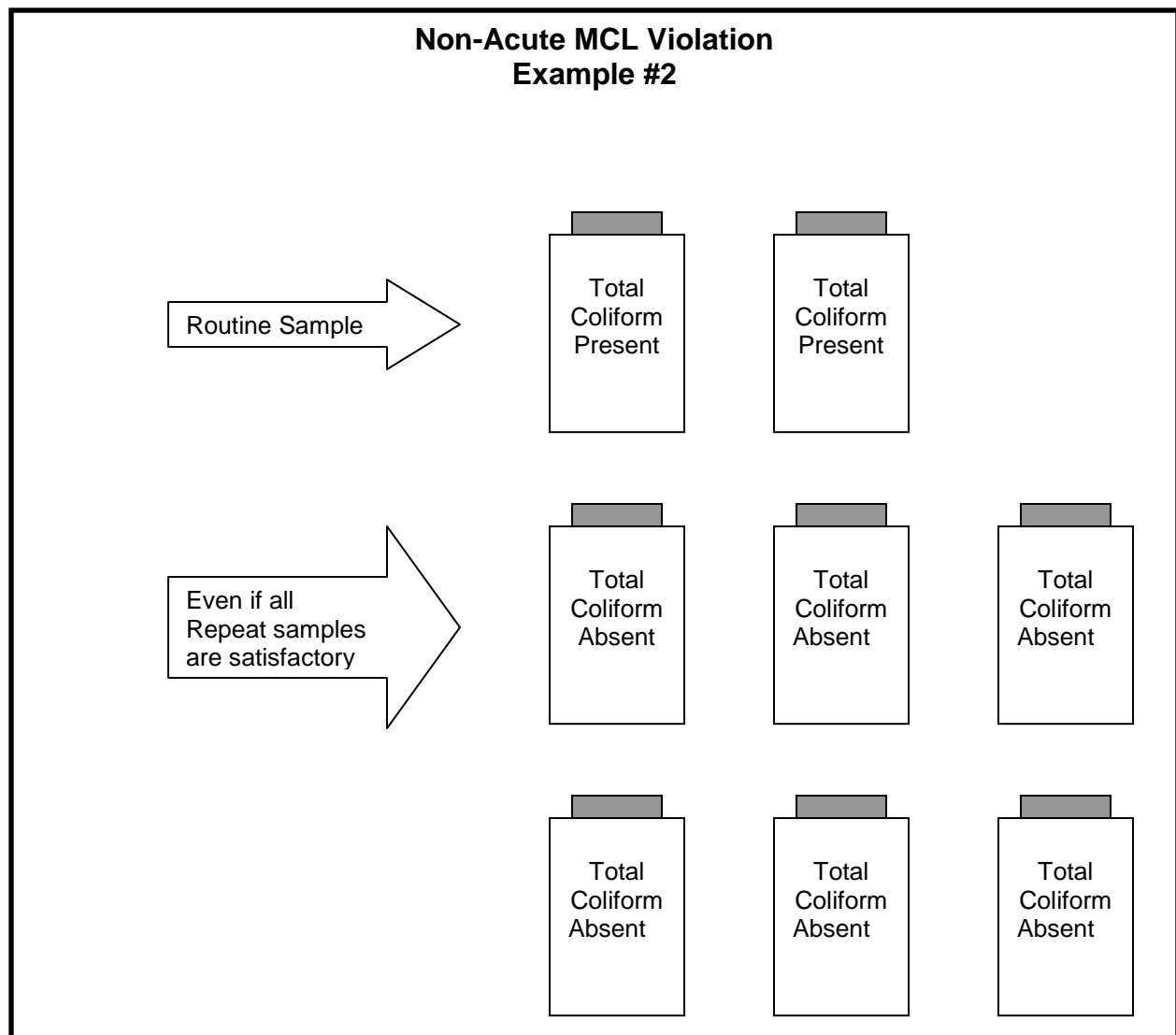
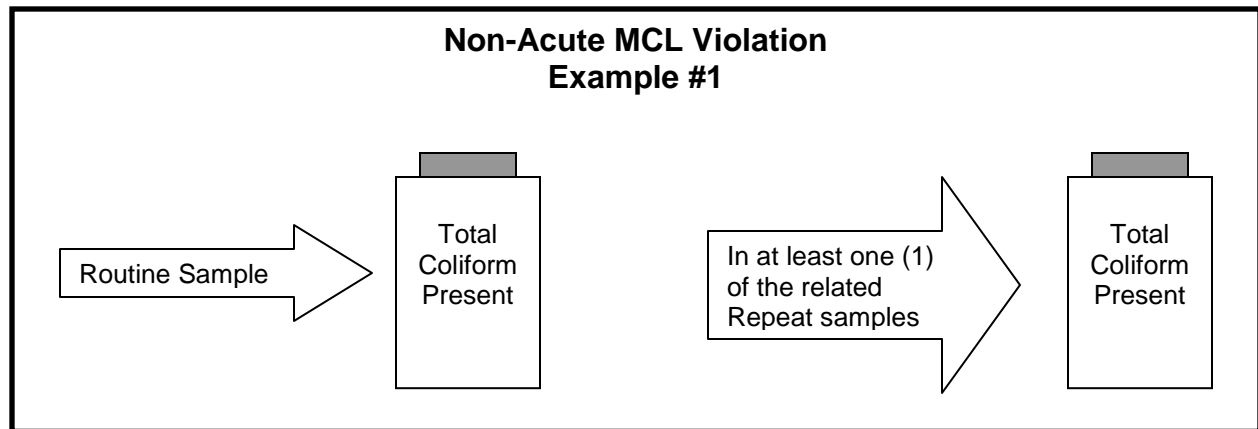
For a water system that collects less than 40 routine samples during the month:

- The water system has a non-acute MCL violation if two or more routine or repeat samples are unsatisfactory with coliform present.

For a water system that collects 40 or more routine samples during the month:

- The water system has a non-acute MCL violation if more than five percent of all routine and repeat samples are unsatisfactory with coliform present.

The following shows how a non-acute MCL violation could occur:



What to do if you have an MCL violation

If you have an MCL violation, contact your regional office as soon as possible to discuss public notification, follow-up requirements, and steps you can take to resolve the problem quickly.

There are requirements to notify everyone served by the water system:

- Acute MCL violation – public notification is required within 24 hours. Due to the public health risk, a boil water advisory will typically be issued in response to an acute MCL violation.
- Non-acute MCL violation – public notification is required to be completed as soon as practical, no later than 30 days after the water system learns of the violation.

Notification forms are available on our website at <http://www.doh.wa.gov/ehp/dw/default.htm>.

Other types of coliform violations

There are two other types of coliform violations that are related to monitoring requirements for the water system:

Major repeat violation

A water system has a major repeat violation if the water system fails to collect repeat samples in response to an unsatisfactory routine sample(s). A major repeat violation is considered a water quality violation since the routine sample showed the presence of bacteria. *Public notification is required.*

Major monitoring violation

This type of violation occurs if a water system does not collect any samples during a month when one or more are required. Monitoring is important to assure that the water served to customers is free of coliform bacteria. *Public notification is required.*

State significant noncompliance with coliform requirements

We classify violations as either water quality or monitoring violations, and identify a water system as *state significant noncompliance* if the water system has one of the following violations within a 12-month period:

- Four water quality violations (MCL or major repeat).
- Six major monitoring violations.
- A combined total of six water quality and monitoring violations.

When a water system becomes a state significant noncompliance, we will pursue enforcement.

For more information

Eastern Region, Spokane Valley: (509) 329-2100

Northwest Region, Kent: (253) 395-6750

Southwest Region, Tumwater: (360) 236-3030